Parallax Ping))) Theremin

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TOOLS:

- ProtoShield (1)
- USB A to B cable (1)

PARTS:

- Arduino microcontroller (1)
- Wire (1)
- LCD screen (1)
- 10k Pot (1)
- 8 Ohm mini speaker (1)
- PING))) Ultrasonic Sensor (1)
- Small Breadboard (1)
- headphone jack (1)
- Resistors, 1kΩ (1)

SUMMARY

This guide will cover the basic concept of the Ping))) sensor by making a fun project.

Step 1 — Wire LCD backlight/logic circuits

- Wire backlight according to pins on LCD. Same for logic circuits. Pot wiper goes to Vo (contrast), one outer pin of the pot goes to ground, the other to 5v.
- Make sure polarities are correct.
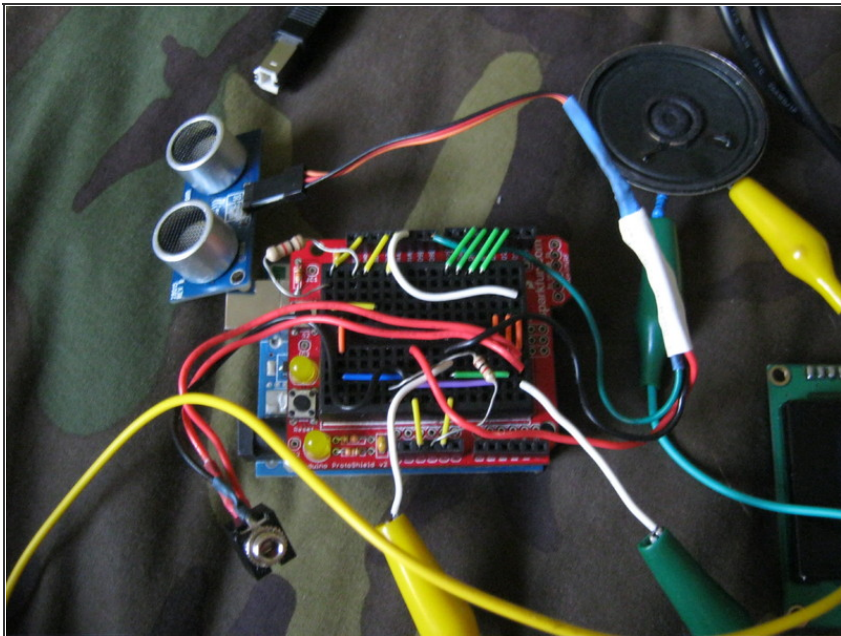- Use pot to control contrast to your needs.

Step 2 — Wire the digital pins
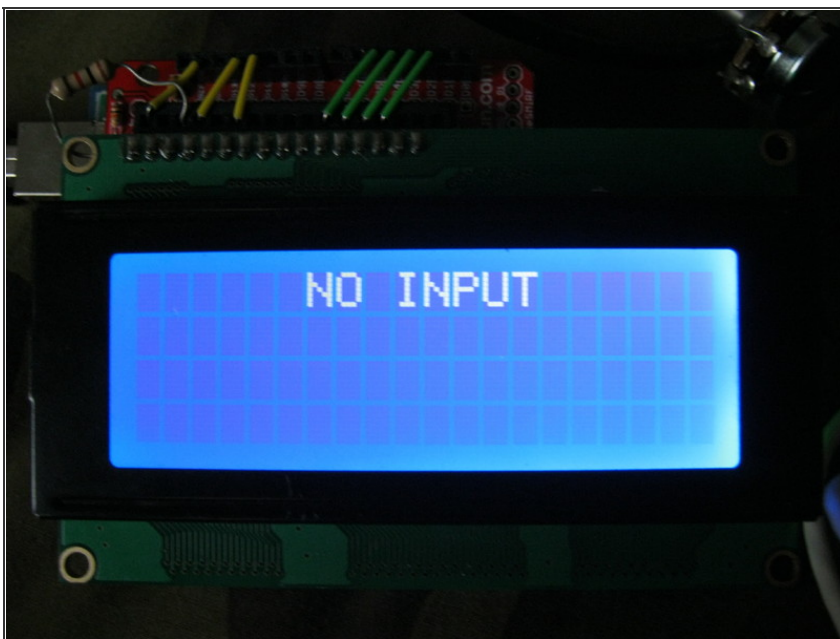
- * LCD RS pin to digital pin 12 * LCD Enable pin to digital pin 11 * LCD D4 pin to digital pin 5 * LCD D5 pin to digital pin 4 * LCD D6 pin to digital pin 3 * LCD D7 pin to digital pin 2 * LCD R/W to ground
- I used a 1K resistor instead of a 10K pot.
- Use the 10K pot to control the contrast.

Step 3 — Wire Ping))) and audio

- Sound is on pin 10 and ping is on pin 7. 1kΩ resistor on headphone ground.

Step 4 — Upload code

- Code can be found here.
- Copy and paste code to Arduino IDE and click "Upload".

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